

## STATEMENT OF NEED FOR SUPPLY OR SERVICE

### PURPOSE:

The agency need is to collect aerial phototransect survey data using a hybrid fixed wing Unmanned Aerial System (UAS) with vertical takeoff and landing (VTOL) capacity over an area of coastal ocean that is simultaneously being monitored by shore-based marine mammal observers. For this mission we are interested the greater horizontal speed (~15 m/s) and endurance (50+ minutes) offered by a fixed-wing UAS relative to rotary-wing UAS, while also maintaining the capacity for VTOL. VTOL is vital to protect the aircraft and the high-resolution sensor payload during landings in the challenging field environments where we will be operating.

### TECHNICAL SPECIFICATIONS:

The hybrid fixed wing UAS equipment and training that we require for this mission includes:

- A. 2 - FireFLY6 Pro UAS (manufactured by BirdsEyeView Aerobotics)
- B. 2 - Sony A7R cameras installed in custom vibration isolating mounts that connect to the FireFLY6 Pro via a quick-release mechanism
- C. 1 - real-time/post-processing kinematic (RTK-PPK) base station that is preconfigured to pair with FireFLY6 Pro
- D. 1 - ground control station computer (Dell Latitude 5420 Rugged) with a datalink preconfigured to pair with FireFLY6 Pro
- E. 1 - long range video link antenna (includes TBS Unify 500mW transmitter, TBS Groundstation receiver, and TBS Yagi antenna preconfigured to pair with FireFLY6 Pro)
- F. 6 - FireFLY6 Pro battery sets (5500mAh 6S 22.8V – WH: 125.4)
- G. 2 - Pulse Ultra PLC400D Battery Chargers configured to charge FireFLY6 Pro LiHV batteries
- H. 1 - Agisoft Metashape Professional Edition post-processing software (node-locked license)
- I. 1 - Training class on FireFLY6 Pro for pilots (to be held in San Diego)

### DELIVERABLE SCHEDULE:

Line items 0001, 0002, 0003 – Delivery date by August 31, 2019

Line item 0004 – Training classes to be scheduled upon delivery of items and completed before 03/01/2020

Period of Performance: 08/01/2019-03/01/2020

Option Quantity 1 – Line items 1001, 1002, 1003, 1004

Period of Performance: 03/02/2020 - 03/01/2021

(Date to place order TBD)

Option Quantity 2 – Line items 2001, 2002, 2003, 2004

Period of Performance: 03/02/2021 - 03/01/2022

(Date to place order TBD)